

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions and listings of claims in the application:

1. (Withdrawn) A scaffold for regenerating a biological tissue by seeding tissue cells onto the scaffold and growing the tissue cells on the scaffold, comprising a semi-permeable membrane formed on an outer surface thereof and is 1 to 3mm in size.
2. (Withdrawn) The scaffold as set forth in claim 1, wherein the semi-permeable membrane is made of one selected from among alginates, polysaccharides, chitosan, agar powder and gelatin.
3. (Cancelled)
4. (Withdrawn) A method for preparing a scaffold comprising a semi-permeable membrane, comprising:

loading one or more scaffolds into a mold with a predetermined form and size;

and

adding a mixture of a semi-permeable agent and a cross-linking agent to the mold and cross-linking the semi-permeable agent to form the semi-permeable membrane on an outer surface of each of the scaffolds.
5. (Withdrawn) The method as set forth in claim 4, wherein the semi-permeable agent is selected from among alginates, polysaccharides, chitosan, agar powder and gelatin.
6. (Withdrawn) The method as set forth in claim 4, wherein the cross-linking agent is selected from among calcium chloride, tripolyphosphate and glutaraldehyde.
7. (Withdrawn) The method as set forth in claim 4, wherein the mold is made of Teflon.

8. (Currently Amended) A method of preparing a biological tissue, comprising:

seeding cells obtained from a tissue to be regenerated onto one or more scaffolds;

loading the scaffolds seeded with the tissue cells into a molding container with a

predetermined form and size suitable for forming the biological tissue being produced;

adding a semi-permeable agent selected from among alginates, polysaccharides, chitosan, agar powder and gelatin and a cross-linking agent to the molding container, to form by the cross-linking thereof, and forming a semi-permeable membrane, permeable to nutrients, on an overall outer surface of each of the scaffolds loaded in the molding container to interconnect the scaffolds with each other through the semi-permeable membrane; and

introducing nutrients into the scaffolds interconnected with the semi-permeable membrane, cross-linking agent, thus proliferating the tissue cells to produce a biological tissue.
9. (Cancelled)
10. (Original) The method as set forth in claim 8, wherein the cross-linking agent is selected from among calcium chloride, tripolyphosphate and glutaraldehyde.
11. (Currently Amended) The method as set forth in claim 8, wherein the molding container is made of Teflon.
12. (Withdrawn) A biological tissue prepared using the scaffold comprising the semi-permeable membrane according to claim 1
13. (Cancelled)

14. (New) A method of preparing a biological tissue, comprising:

seeding cells obtained from a tissue to be regenerated onto a scaffold having an outer surface to produce a scaffold piece having a thickness of between about 1 to 3 mm;

loading a plurality of said scaffold pieces into a molding container having a predetermined form and size and having a morphology of a tissue to be regenerated;

adding a semi-permeable agent at a concentration between about from 0.5 to 5% and a cross-linking agent, selected from the group consisting of calcium chloride, tripolyphosphate and glutaraldehyde, at a concentration of between about 1 and 5%, to the molding container to interconnect the plurality of scaffold pieces to form a biodegradable polymer construct with a porous structure able to support migration and proliferation of cells, said porous structure having pores having pore size ranges from 200 to 350 μm and micropores having a size of less than 2 μm ., thereby forming a dual porous structure;

providing a reaction time of between about 1 and 20 minutes to allow said plurality of scaffold pieces to interconnect; and

introducing nutrients into the biodegradable polymer construct to proliferate the cells and to permit interconnecting of the scaffold pieces into a desirable morphology of a biological tissue, wherein at least some of the cells employed in said step of seeding are stem cells and wherein the biological tissue prepared is suitable for one of the following: cartilage regeneration, bone tissue regeneration, neovascularization, nerve regeneration, regeneration of damaged tissues, regeneration of one of heart, lung and liver organs.